ABSTRACT

The ability of an insect to tolerate cold temperatures is different at both popula- tion and species level. To increase their chilling tolerance D. melanogaster adopt various methods like accumulation of carbohydrate cryoprotectants, membrane re- modeling etc as a part of both evolutionary change and RCH. And due to chill injury ies' attractiveness can go down. Thus here we did two experiments first to check the effect of cold shock on the attractiveness of female D. melanogaster and second to quantify the levels of cryoprotectants. The first experiment was a mate choice experiment to see a difference in female D. melanogaster attractiveness after cold shock in selected (for cold shock) and control population. In this, we got the positive result that indeed post cold shock female's attractiveness goes down and females from selected populations are much better at recovering from cold shock than the females of control populations. The second experiment was Accumulation of Cryoprotectants which was done to quantify the levels of different cryoprotectants; namely Glucose, Glycogen and Trehalose; in D. melanogaster. BRB ies were given 4 types of treatments which were RCH, RCH with cold shock, Cold shock, no shock and were ash frozen at several time points 0; 4; 8; 12; 24; 36; 48; 60 hours post treatments. We were successfully able to quantify the levels of glucose in D. melanogaster males but we did not see any statistically significant difference between the glucose levels of D. melanogaster post treatments. We still have to quantify levels of glycogen and trehalose.